APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,470	12/14/2001	Wade Hennessey	3048-7049US1	1705

	EXAMINER
7590 02/05/2004	RONES, CHARLES

MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY 10154-0053

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,470	12/14/2001	Wade Hennessey	3048-7049US1	1705

7590   10/01/2002

MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY   10154-0053

EXAMINER
RONES, CHARLES

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	**Applicant(s)**
Office Action Summary	10/014,470	HENNESSEY
	Examiner	**Art Unit**
	Charles L. Rones	2175

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 February 2000</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>18-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>18-37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Preliminary Amendments

The preliminary amendments filed on January 14, 2002 and February 14, 2002 has been entered.

Specification

Claim 22 is objected to because of the following informalities: Line 3 states "one or ore", which should likely state –one or more--. Appropriate correction is required.

The description portion of this application contains a computer program listing consisting of more than three hundred (300) lines. In accordance with 37 CFR 1.96(c), a computer program listing printout of more than three hundred lines <u>must</u> be submitted as a computer program listing appendix on compact disc conforming to the standards set forth in 37 CFR 1.96(c)(2) and must be appropriately referenced in the specification (see 37 CFR 1.77(b)(4)). Accordingly, applicant is required to cancel the computer program listing appearing in the specification on pages 16-65, file a computer program listing appendix on compact disc in compliance with 37 CFR 1.96(c) and insert an appropriate reference to the newly added computer program listing appendix on compact disc at the beginning of the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellis et

al. U.S. Patent No. 5,088,036 ('Ellis').

Ellis discloses:

As to claim 26,

temporarily restricting execution of said inutators during a garbage collection

cycle, while processing the corresponding thread state for each one of said mutators;

See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67;

14:60-67; 15:66-68;

permitting each one of said mutators to resume unrestricted execution, as soon

as said mutator's own corresponding thread state has been processed; See Abstract;

1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67; 14:60-67; 15:66-

68;

identifying each one of said objects that is currently accessible to at least one of said mutators; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67; 14:60-67; 15:66-68; and

executing said mutators subject to a write barrier which is invoked when said imitators modify pointers within said plurality of data objects but not when said mutators modify pointers within said thread states; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67; 14:60-67; 15:66-68.

As to claim 27,

wherein said step of temporarily restricting the execution of said mutators includes a first step of restricting said mutators from creating any new data objects, and a second step of temporarily suspending execution of said mutators; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67; 14:60-67; 15:66-68.

As to claim 28,

tracing one or more pointers stored in said objects, for each one of said objects that is in turn pointed to by at least one pointer stored in at least one of said imitator thread states; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67; 14:60-67; 15:66-68.

As to claim 29,

a garbage collector for processing the corresponding thread states of said

mutators at the beginning of a garbage collection cycle, and for identifying each one of

said data objects that is accessible to at least one of said mutators during said cycle;

See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67;

one or more processors for executing said garbage collector and said mutators;

See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67;

and

a scheduler coupled to said processors for scheduling execution of said garbage

collector and said mutators on said processors, said scheduler being operative to

temporarily restrict execution of said mutators while the corresponding thread state is

being processed for each one of said mutators, and to permit each one of said mutators

to resume unrestricted execution as soon as said mutator's own corresponding thread

state has been processed; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and

50-67; 10:8-30; 11:1-67.

As to claim 30,

wherein said garbage collector further includes a processor for flipping said one

or more objects from a first label representative of accessible status to a second label

representative of undetermined status; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65;

9:4-21 and 50-67; 10:8-30; 11:1-67.

As to claim 31,

wherein said garbage collector further includes a storage for saving a list of said

mutator threads; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67;

10:8-30; 11:1-67.

As to claim 32,

wherein said garbage collector includes a processor for tracing one or more

pointers stored in each of said mutator thread states; See Abstract; 1:40-55; 6:30-67;

7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67.

As to claim 33,

wherein said garbage collector includes a processor for tracing one or more

pointers stored in said data objects, for each one of said objects that is in turn pointed to

by at least one pointer stored in at least one of said mutator thread states; See

Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30; 11:1-67.

As to claim 34,

wherein said garbage collector does not copy said data objects; See Abstract;

1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30 and 60-68; 11:1-67.

As to claim 35,

wherein said one or more processors are implemented with stock hardware; See

Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30 and 60-68; 11:1-

67.

As to claim 36,

wherein said scheduler is operative to temporarily restrict said imitators from

creating any new data objects, and is further operative to suspend execution of said

imitators; See Abstract; 1:40-55; 6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30

and 60-68; 11:1-67.

As to claim 37,

a processor for executing said mutators subject to a write barrier which is

invoked when said mutators modify pointers within said plurality of data objects but not

when said mutators modify pointers within said thread states; See Abstract; 1:40-55;

6:30-67; 7:1-66; 8:35-65; 9:4-21 and 50-67; 10:8-30 and 60-68; 11:1-67.

As to claims 18-25, they are combinations and subcombinations of previously

rejected claims and are rejected for their respective reasons as stated above.

Claims 18-37 are are rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-17 of prior U.S. Patent No. 6,341,293. This is a double patenting rejection.

The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 C.F.R. ' 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. ' 1.78(d).

Claims 18-37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,341,293. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are arguably broader than claims 1-17 of Hennessey '293 which encompasses the same metes, bounds, and limitations. Therefore, it would be obvious to eliminate the limitations of the narrower claims, since it has been held that omission of an element and its function and a combination where the remaining elements perform the same functions as before involves only routine skill in the art. See *In re Karlson*, 136 USPQ 184.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles L. Rones whose telephone number is 703-306-3030. The examiner can normally be reached on Monday-Thursday 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

Charles L. Rones
Primary Examiner
Art Unit 2175

September 19, 2002